

## **What Is Encephalitis?**

Encephalitis is an inflammation of the brain. It can have many different causes, the most common being viral infections. This pamphlet covers mosquito-borne encephalitis, also known as arbovirus [arthropod (insect)-borne virus] encephalitis. Some of the arboviruses that cause encephalitis in the United States, including Texas, are eastern equine encephalitis (EEE), western equine encephalitis (WEE), St. Louis encephalitis (SLE), Venezuelan equine encephalitis (VEE), and West Nile virus (WNV). The most serious type is EEE, and it affects all age groups. With SLE, adults are primarily affected; WEE usually affects young adults and children less than one year of age. West Nile virus primarily affects the elderly or immunocompromised individuals. In Texas, VEE is not commonly found; however, it has occurred in the past and could potentially reappear.

## **How Do People Contract Arbovirus Encephalitis?**

Any person can become infected when a mosquito carrying one of these viruses bites them. Mosquitoes obtain the virus when feeding on infected birds and other wild animals, which are the natural carriers of these viruses. Human infections occur most commonly between late spring and early fall. There is no evidence that the diseases are spread directly from one person to another.

## **Where Do The Viruses Come From?**

The common reservoirs for these viruses are birds and wild animals. Many species of birds, including sparrows, blackbirds, pheasants, chickens, and pigeons, may carry the various viruses without becoming ill. West Nile virus, however, may cause serious disease in some birds, such as crows, jays, and hawks. These birds may die in large numbers when infected with WNV.

## **What Are the Symptoms in People?**

Fortunately, only a small number of people bitten by infected mosquitoes will become sick. In those who do develop symptoms, the illness is usually similar to the flu, and the infected person fully recovers in a couple of days. People who are mildly affected may have headache, drowsiness, and fever. Those with severe disease may have intense headache, high fever, nausea, muscle tenderness, shivering, and mental confusion. Although unlikely, convulsions, coma, and even death may follow.

## **What Are the Clinical Signs in Horses?**

Various animals may be infected with the viruses; however, equines, such as horses, are the domesticated animals most commonly affected by EEE, WEE, VEE, and WNV. The first sign of infection in a horse is usually fever. The animal may become uncoordinated or restless and walk in circles, lean on objects, or stand with its legs spread wide or with its front legs crossed. It may have facial paralysis (drooping lower lip) and be unable to swallow. Convulsions, coma, and death may result. The death rate varies from 25-90% in horses, depending on the type of infection. The virus that produces the most severe disease in horses is EEE. Horses also can be severely affected by WNV; however, they are not affected by SLE. Vaccinations against EEE, WEE, VEE, and WNV are available for horses. These diseases are not known to be spread from horses to humans.

## **How Can I Protect Myself?**

Some preventive measures are:

1. Remove sources of standing water where mosquitoes may breed, such as cans, tires, roof drains, tree holes, puddles below outdoor water taps, saucers under flower pots, etc.
2. Keep water fresh (change the water often so it does not stagnate) in pet bowls, birdbaths, and wading pools.
3. Make sure screens on windows and doors are in good repair.
4. Wear protective clothing (long-sleeve shirts and pants).
5. Use insect repellent containing DEET.

## **What Is the Treatment for Arbovirus Encephalitis?**

There is no specific treatment available for mosquito-borne encephalitis. Fortunately, most patients fully recover with rest and the supervision of a physician. The physician will usually take blood samples for laboratory confirmation of the diagnosis.